

Notice of Allowability

Application No.

10/660,464

Examiner

Aaron W. Carter

Applicant(s)

KATAYAMA ET AL.

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to papers filed on 10/1/2007.
2. ☒ The allowed claim(s) is/are 1-34.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Thomas K. Scherer (Reg. No. 45,079) on October 17, 2007.

The application has been amended as follows:

As to claim 5, in line 11, replace the phrase "the plurality" with the phrase "a plurality".

As to claim 24, in line 10, replace both instances of the phrase "the plurality" with the phrase "a plurality".

As to claim 33, in line 4, replace the phrase "the plurality" with the phrase "a plurality".

As to claim 34, in line 3, replace both instances of the phrase "the plurality" with the phrase "a plurality".

DETAILED ACTION

1. This action is responsive to papers filed on October 1, 2007.

Response to Amendment

2. In response to applicant's amendment received on October 1, 2007, all requested changes to the claims have been entered. Claims 33 and 34 have been added.

Response to Arguments

3. Applicant's arguments, see Remarks, pages 16 and 17, filed October 1, 2007, with respect to claims 1, 21 and 31 have been fully considered and are persuasive. The 35 USC 102 rejections of claims 1, 21 and 31 have been withdrawn.

Allowable Subject Matter

4. Claims 1-34 are allowed.

The following is an examiner's statement of reasons for allowance:

5. As to claims 1, 21 and 31, none of the prior art teaches or fairly suggests the limitation of "a degree-of-image coincidence computing unit for computing degree of image coincidence between the three-dimensional comparison image and the three-dimensional reconstruction image", in combination with the other limitations of the claims. The prior art of Lee, already on record, discloses generating a 3D reconstruction image, generating a 3D comparison image from

the 3D reconstruction image and computing a degree of image coincidence between the 3D comparison image and a reference image, see Figs. 2A and 2B. The prior art of US 2005/0190181 to Sakagawa et al. discloses generating a 3D shaded image by shading a 3D reconstruction image. However, neither Lee nor Sakagawa disclose using the 3D reconstruction image to generate the shaded image and consequently the comparison image and then computing degree of image coincidence between the three-dimensional comparison image and the three-dimensional reconstruction image, as disclosed in the limitations of claims 1, 21 and 31.

6. As to claims 5 and 24, none of the prior art teach or fairly suggests the limitation “generating a plurality of three-dimensional comparison images using a plurality of three-dimensional simulated images indicating a plurality of structures which are to be formed by the substance”, in combination with the other limitations of the claims. The prior art of Lee, already on record, discloses generating a 3D reconstruction image, generating a 3D comparison image from the 3D reconstruction image and computing a degree of image coincidence between the 3D comparison image and a reference image, see Figs. 2A and 2B. However, the prior art of Lee does not teach or fairly suggest generating a plurality of three-dimensional comparison images using a plurality of three-dimensional simulated images indicating a plurality of structures which are to be formed by the substance, as disclosed in claims 5 and 24.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

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fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron W. Carter whose telephone number is (571) 272-7445. The examiner can normally be reached on 8am - 4:30 am (Mon. - Fri.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (571) 272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


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